

Serial No.: 10/767,128
Examiner: David B. Thomas
Art Unit: 3723

STATEMENT OF THE CLAIMS

1. (currently amended) A driver ~~for a~~ and fastener system, comprising:

a) a fastener having a non-twisted socket with facets, a cross-section through said socket defining a regular polygon; and

b) a driver with a shaft having a tip with sides meeting at edges, said tip being which is tapered along its length, wherein a first cross-section along said length defines a regular polygon of a first size and a second cross section along said length defines a regular polygon of a relatively smaller second size, said regular polygons being rotationally offset relative to each other.

wherein when said tip is inserted into said socket, said sides of the tip of the driver adjacent entry into the socket lie against said facets of the socket and said edges of said tip contact the sides of the socket.

2. (currently amended) A ~~driver system~~ according to claim 1, wherein:

when said tip is viewed end on, said polygon defined by said first cross-section appears to circumscribe said polygon defined by said second cross-section.

3. (currently amended) A ~~driver system~~ according to claim 1, wherein:

said regular polygon is a hexagon.

4. (currently amended) A ~~driver system~~ according to claim 1, wherein:

said regular polygon is a square.

Serial No.: 10/767,128
Examiner: David B. Thomas
Art Unit: 3723

5. (currently amended) A ~~driver system~~ according to claim 1, wherein:

said shaft has a proximal end which defines a non-circular cross-sectional shape.

6. (currently amended) A ~~driver system~~ according to claim 1, wherein:

said shaft has a proximal end which is provided with a handle.

7. - 9. (canceled)

10. (currently amended) A driver and fastener system, comprising:

a) a fastener including a non-twisted socket with a depth and which defines a regular N-sided polygon shape; and

b) a driver including a shaft with a tip having a length L substantially corresponding to said depth, said tip extending between an end of said tip and a location on said tip, wherein cross-sections through said tip define regular N-sided polygons, and said tip being tapered along said length such that a first N-sided polygon defined at said end is smaller than a second N-sided polygon defined at said location, and said tip being twisted at an angle such that said first and second N-sided polygons are rotationally offset relative to each other.

11. (original) A system according to claim 10, wherein:

said angle is substantially constant and within ten percent of θ , where θ is determined from trial and error by,

Serial No.: 10/767,128
Examiner: David B. Thomas
Art Unit: 3723

$$d_{\theta} = d_o \cos \theta + \frac{d_o \sin \theta}{\tan(90 - \frac{180}{N})}, \text{ where}$$

d_o is a diagonal from a center of said first N-sided polygon to a corner of said first N-sided polygon, and

d_{θ} is a diagonal from a center of said second N-sided polygon to a corner of said second N-sided polygon at said constant angle and distance L.

12. (original) A system according to claim 10, wherein:

when said tip of said driver is viewed end on, said second N-sided polygon appears to circumscribe said first N-sided polygon.

13. (original) A system according to claim 10, wherein:

said regular N-sided polygon is a hexagon.

14. (original) A system according to claim 10, wherein:

said regular N-sided polygon is a square.

15. (original) A system according to claim 10, wherein:

said shaft has a proximal end which defines a non-circular cross-sectional shape.

16. (original) A system according to claim 10, wherein:

said shaft has a proximal end which is provided with a handle.

Serial No.: 10/767,128
Examiner: David B. Thomas
Art Unit: 3723

17. (original) A system according to claim 10, wherein:

said tip adjacent said point makes planar contact with a facet of socket.

18. (new) A system according to claim 1, wherein:

said socket is non-tapered.

19. (new) A method of driving a fastener, comprising:

- a) providing a fastener having a non-twisted socket defining a regular polygon; and
- b) providing a driver with a shaft having a tip with a length adapted to be inserted into the socket, said driving tip being tapered along its length and twisted at a constant angle, wherein a cross-section through the tip defines a regular polygon;
- c) inserting the tip into said socket; and
- d) driving the fastener with the driver.

20. (new) A method according to claim 19, wherein:

said socket includes a plurality of facets,

said tip includes sides which meet at edges, and

said inserting includes inserting said tip into the socket such that the sides of the tip of the driver adjacent entry into the socket lie against the facets of the socket and the edges of the tip contact the sides of the socket such that the fastener is retained on the driver as a result of engagement of the edges of the tip against the sides of the socket.

Serial No.: 10/767,128
Examiner: David B. Thomas
Art Unit: 3723

21. (new) A method according to claim 19, wherein:
said regular polygon is a square.